

**Review of Fruit and Nut Survey Phase II:  
Assessment of Homegrown Produce for Volatile Organic Compound  
Contamination**

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**SUMMARY:**

Produce grown within the community surrounding Kelly Air Force Base were collected to investigate potential contamination from volatile organic compounds. A total of 208 samples of cacti, tomatoes, bananas, figs, pears, peaches, pecans and citrus fruit were collected in 2003. None of the samples contained detectable levels of volatile organic compounds (VOCs). The contaminants of concern include tetrachloroethylene, trichloroethylene, 1,2-dichloroethylene and vinyl chloride. These compounds are a concern because they have been detected in groundwater beneath houses in the communities surrounding Kelly Air Force Base. Although available information indicates that the contaminant plume has been significantly reduced in recent years, there is still concern regarding exposure to residual volatile chemicals in groundwater. Human exposure to volatile chemicals in groundwater may occur due to direct ingestion of the water, inhalation of chemicals released to soil gas, or ingestion of chemicals translocated into plants. Groundwater beneath the homes is not used for drinking. Thus, the current study was conducted to determine the potential for these chemicals to be taken up by plants.

The available data indicate that produce grown in communities surround Kelly Air Force Base do not represent a threat to human health. The compounds of concern are slowly degraded under most environmental conditions. These chemicals are of limited solubility in water, and thus are not likely to be taken up by plants in large concentrations. If the chemicals were taken up by plants, evaporation of the plants to the atmosphere is likely to reduce their concentration further. The results of the fruit and nut study confirm this assumption.